

Amendments to the Claims

Please amend claims 1 and 3-9. The following listing of claims replaces all prior versions and listings of claims in the present invention:

1. (Currently Amended) An illumination device comprising:
a substrate having a surface and comprising including a highly thermally conductive heat spreader;
a plurality of light emitting diodes (LEDs) supported by the surface, the LEDs arranged in an array to provide illumination;
at least one thermally conductive reflective barrier at least partially surrounding each LED, the thermally conductive reflective barrier shaped to reflect away from the LED light emitted by other LEDs in the array;
the LEDs and the thermally conductive reflective barrier thermally coupled to the heat spreader to dissipate heat generated by the LEDs and heat produced by light absorption.
2. (Original) The device of claim 1 wherein the substrate comprises an LTCC-M heat spreader.
3. (Currently Amended) The device of claim 1 wherein the at least one thermally conductive reflective barrier comprises a periodic array of troughs and reflective ridges, the ridges shaped to reflect away from an LED light from an LED in an adjacent trough.
4. (Currently Amended) The device of claim 1 wherein the at least one

thermally conductive reflective barrier comprises a reflective ridge shaped to reflect away LED light from an adjacent LED.

5. (Currently Amended) The device of claim 1 wherein at least one thermally conductive reflective barrier comprises a cup substantially peripherally surrounding an LED to reflect light away from adjacent LEDs.

6. (Currently Amended) The device of claim 4 wherein the at least one thermally conductive reflective barrier comprises an array of cups, each cup substantially peripherally surrounding a respective LED to reflect light away from adjacent LEDs.

7. (Currently Amended) The device of claim 1 wherein the at least one thermally conductive reflective barrier comprises a plurality of reflective circular sectors arranged in a circle, each reflective sector shaped to reflect away light from other sectors in the array.

8. (Currently Amended) The device of claim 1 wherein the at least one thermally conductive reflective barrier comprises a cavity having reflective walls and one or more smoothly curved reflective edges formed by the cooling of molten metal.

9. (Currently Amended) The device of claim 1 wherein the at least one thermally conductive reflective barrier is shaped to provide directional illumination.